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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,273	07/13/2000	Luc Wuidart	S1022/8394	3658

7590

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EXAMINER

SHIMIZU, MATSUICHIRO

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/615,273

Applicant(s)

WUIDART ET AL.

Examiner

Matsuichiro Shimizu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-12 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawing

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show descriptive labeling associated with all blocks in figure 1 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections – 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The addition of word "type" (line 1 of claim 1) in claim 1 results in being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, and usage of it should be avoided (see MPEP 2173.05 (b) E).

Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

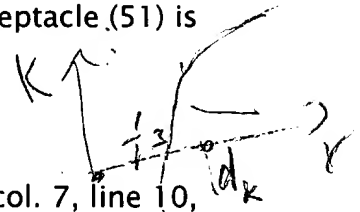
Claims 1, 8-9 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Janning et al. (6,446,049).

Regarding claim 1, Janning discloses an electromagnetic transponder (Figs. 3 and 5A-C, col. 14, lines 7-57, receptacle transceiver (50) comprising tuned circuit (307) and antenna (309)) of the type including a parallel oscillating circuit (Figs. 3 and 5A-C, col. 14, lines 7-57, tuned circuit (307) and antenna (309) are excited at resonant

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frequency) adapted to being excited by a series oscillating circuit of a read/write terminal when the transponder enters the field of the terminal, wherein the components of the oscillating circuit of the transponder are sized so that the coupling coefficient between the respective oscillating circuits of the terminal and of the transponder rapidly decreases (col. 24, line 66 to col. 25, line 14, magnetic coupling decreases (or rapidly decrease) in proportion to the cube of the distance from the magnetic source) when the distance separating the transponder from the terminal becomes smaller than a predetermined value (col. 26, line 55-67, the receptacle (51) is within sufficient proximity (less than two meters) of the dispenser (18)).

Regarding claim 8, Janning discloses a terminal (col. 6, line 54 to col. 7, line 10, transceiver (22) or interrogator comprising tuned circuit (607) and antenna (609)) for generating an electromagnetic field adapted to cooperating with at least one transponder (Figs. 3 and 5A-C, col. 14, lines 7-57, receptacle transceiver (50) or transponder comprising tuned circuit (307) and antenna (309)) when said transponder enters this field, including a series oscillating circuit for generating the electromagnetic field, this series oscillating circuit being sized so that the coupling coefficient between the respective oscillating circuits of the terminal (col. 6, line 54 to col. 7, line 10, transceiver (22) or interrogator comprising tuned circuit (607)) and of the transponder



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(Figs. 3 and 5A-C, col. 14, lines 7-57, receptacle transceiver (50) or transponder comprising tuned circuit (307)) strongly decreases (col. 24, line 66 to col. 25, line 14, magnetic coupling decreases (or rapidly decrease) in proportion to the cube of the distance from the magnetic source) when the distance separating the transponder from the terminal becomes smaller than a predetermined value (col. 26, line 55-67, the receptacle (51) is within sufficient proximity (less than two meters) of the dispenser (18)).

Regarding claim 9, Janning continues, as disclosed in claim 8, to disclose the terminal, wherein the components of its oscillating circuit are sized to fulfill the operating conditions of the transponder (col. 24, line 66 to col. 25, line 14, operating condition associated with low carrier frequency of 8.192 kilohertz wherein magnetic coupling decreases (or rapidly decrease) in proportion to the cube of the distance from the magnetic source) of claim 1.

Regarding claim 11, Janning continues, as disclosed in claim 1, to disclose a system of contactless electromagnetic transmission (Figs. 3 and 5A-C, col. 14, lines 7-57, contactless receptacle transceiver (50) comprising tuned circuit (307) and antenna (309)) between a terminal and a transponder, wherein the transponder is that of claim 1.

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Regarding claim 12, Janning continues, as disclosed in claim 8, to disclose a system of contact-less electromagnetic transmission (col. 6, line 54 to col. 7, line 10, contact-less transceiver (22) or interrogator comprising tuned circuit (607) and antenna (609)) between a terminal and a transponder.

Claim Rejections – 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner

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to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-3, 6-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janning.

Regarding claims 2-3, 6-7, Janning continues, as disclosed in claim 1, to disclose the electromagnetic transponder, wherein said value is two meters ; an inductance of the parallel oscillating circuit; transformer associated with the number of turns of the inductance of its oscillating circuit; and the capacitance and the inductance of the parallel oscillating circuit . But Janning fails to disclose the electromagnetic transponder, wherein said value is 5 cm; an inductance of the parallel oscillating circuit is minimized; the number of turns of the inductance of its oscillating circuit is smaller than 3; and the respective values of the capacitance and of the inductance of the parallel oscillating circuit range between 20 and 500 pf and between 0.1 and 10 ~H.

However, Janning discloses, in the art of transponder system, the electromagnetic transponder, wherein said value is two meters; an inductance of the parallel oscillating circuit; transformer associated with the number of turns of the inductance of its oscillating circuit; and the capacitance and the inductance of the

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parallel oscillating circuit (Figs. 3 and 5A-C, col. 14, lines 7-57, receptacle transceiver (50) comprising tuned circuit (307) and antenna (309)). Therefore, it would have been obvious to a person skilled in the art at the time of invention was made to include the electromagnetic transponder, wherein said value is 5 cm ; an inductance of the parallel oscillating circuit is minimized; the number of turns of the inductance of its oscillating circuit is smaller than 3; and the respective values of the capacitance and of the inductance of the parallel oscillating circuit range between 20 and 500 pf and between 0.1 and 10 ~H in the device of Janning because Janning suggests the electromagnetic transponder, wherein said value is two meters; an inductance of the parallel oscillating circuit; transformer associated with the number of turns of the inductance of its oscillating circuit; and the capacitance and the inductance of the parallel oscillating circuit and one of ordinary skill in the art recognizes the electromagnetic transponder, wherein said value is 5 cm ; an inductance of the parallel oscillating circuit is minimized; the number of turns of the inductance of its oscillating circuit is smaller than 3; and the respective values of the capacitance and of the inductance of the parallel oscillating circuit range between 20 and 500 pf and between 0.1 and 10 ~H is a matter of choice in design through routine experimentation in order to achieve optimum operation of transponder system.

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Regarding claims 10, Janning continues, as disclosed in claim 9, to disclose the electromagnetic terminal, wherein inductor associated with the number of turns of the inductance of its oscillating circuit (col. 6, line 54 to col. 7, line 10, transceiver (22) or terminal comprising tuned circuit (607) and antenna (609)). But Janning fails to disclose the terminal, wherein the inductance of its series oscillating circuit includes between 3 and 15 turns.

However, Janning discloses, in the art of transponder system, the electromagnetic terminal wherein inductor associated with the number of turns of the inductance of its oscillating circuit (col. 6, line 54 to col. 7, line 10, transceiver (22) or terminal comprising tuned circuit (607) and antenna (609)). Therefore, it would have been obvious to a person skilled in the art at the time of invention was made to include the terminal, wherein the inductance of its series oscillating circuit includes between 3 and 15 turns in the device of Janning because Janning suggests the electromagnetic terminal wherein inductor associated with the number of turns of the inductance of its oscillating circuit and one of ordinary skill in the art recognizes the electromagnetic terminal, wherein the inductance of its series oscillating circuit includes between 3 and 15 turns is a matter of choice in design through routine experimentation in order to achieve optimum operation of terminal system.

Allowable Subject Matter

Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

An inductance of the parallel oscillating circuit is chosen in accordance with the following relation:

$$K_{opt} = (R_1 L_2 / R_2 L_1)^{1/2},$$

where k_{opt} represents the coupling coefficient providing a maximum voltage across the parallel oscillating circuit, where R_1 represents the series resistance of the series oscillating circuit, where R_2 represents the equivalent resistance of the transponder brought in parallel on inductance L_2 , and where L_1 represents the inductance of the series oscillating circuit, as claimed in dependent claim 4, are not taught nor suggested by the prior art of record.

A coupling coefficient as close as possible to an optimal coupling coefficient in accordance with the following relation:

$$V_{2max}(k_{opt}) = ((R_2 / R_1)^{1/2}) * (V_g / 2),$$

where V_{2max} is the voltage across the parallel oscillating circuit for the optimal coupling between the oscillating circuits, R_1 is the series resistance of the series

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oscillating circuit, R2 is the equivalent resistance of the transponder brought in parallel on its oscillating circuit, and Vg is the excitation voltage of the series oscillating circuit, as claimed in dependent claim 5, are not taught nor suggested by the prior art of record.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matsuichiro Shimizu whose telephone number is (703) 306-5841. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached on (703-305-4704). The fax phone number for the organization where this application or proceeding is assigned is (703-305-3988).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-8576).

Matsuichiro Shimizu



December 2, 2002

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